ANTIOXIDANT ACTIVITIES OF SOME SELECTED PLANTS COLLECTED FROM TAMAN NEGARA

SITI RAHAYU MOHD ZAKRIA

Final Year Project Report Submitted in
Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science (Hons.) Applied Chemistry
in the Faculty of Applied Sciences
University Teknologi MARA

April 2009

This final year project report entitled "**Antioxidant Activities of Some Selected Plants Collected from Taman Negara**" was submitted by Siti Rahayu Mohd Zakria , in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by

Prof. Madya Dr. Nor Hadiani binti Ismail
Supervisor
B.Sc. (Hons.) Applied Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Miss Sabrina binti M. Yahaya
Project coordinator
B.Sc. (Hons.) Applied Chemistry
Faculty of Applied Sciences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Dr. Yusairee bin Mohd
Head of Programme
B.Sc. (Hons.) Applied Chemistry
Faculty of Applied SCiences
Universiti Teknologi MARA
40450 Shah Alam
Selangor

Date: 22/5/09

ACKNOWLEDGEMENTS

First of all I would like to thank Allah S.W.T the most gracious for giving me the chance to finish my final year project. I would like to express my deepest thanks and appreciation to my supervisor Prof. Madya Dr Nor Hadiani binti Ismail who has been supervising me throughout this project. This project cannot be completed without her guidance, advice, comments, suggestions and motivation from the beginning until the completion of this project. My gratitude also goes to my coordinator, Miss Sabrina for giving her full commitment in guiding us.

Special thanks to Mr. Nasir, Mr. Shahrizan, Miss Asmah, Miss Puteh, Miss Sarah, Miss Fatimah and all master's students in natural product laboratory Universiti Teknologi MARA, Shah Alam for helping and assisting me during my lab work. To my friend, Farah Ad-Din thank you for being so supportive and helpful in making my project success.

I am gratefully acknowledging my parents, Mr Mohd Zakria bin Ahmad and Madam Zaiton binti Jaafar for their never ending support and encouragement.

Last but not least, thanks to everyone who involved in making sure that my project completed in time.

TABLE OF CONTENTS

ABSTRACT

ANTIOXIDANT ACTIVITIES OF SOME SELECTED PLANTS COLLECTED FROM TAMAN NEGARA

This study was conducted to evaluate the antioxidative activity of methanolic extracts from different parts of twenty six plants collected from Taman Negara. Ethanol were used as solvents and antioxidative effects for lipid peroxidation measured by a ferric thiocyanate method (FTC) and thiobarbituric acid (TBA). About ten species of the plant were tested for their activity in inhibiting lipid peroxide, and most of them exhibited very strong antioxidant properties when compared to Vitamin E (α-tocopherol)and quercetin with percent inhibition of 81-98% in FTC and 89-97% in TBA assays. For free radical scavenging, DPPH method was performed to measure the activity of each species. Most of the species out of twenty six plants which were tested showed positive result for the different method which indicate the species contain a good antioxidant. From the part tested, most of positive result are leaves. The results suggest that several compounds contribute to antioxidative activity of different parts of the plants. The family of Annonaceae showed weak activity in free radical scavenging with the most species showed no activity or IC_{50} value more than 100 μg/ml. The family of Melastomataceae showed strong in free radical scavenging which most of the part tested for every species give the value of IC_{50} less than 30 μg/ml.